

Claims

I claim:

1. A method of monitoring whether an animal is experiencing a disease and/or adverse condition involving smooth muscle cell abnormalities, the method comprising:

5 analyzing a sample taken from the animal for the degree of presence of a protein selected from the group consisting of:

10 (a) phosphorylated proteins having at least 95 percent homology to phosphorylated SEQ. ID NO. 1 in a form in which at least a tyrosine of SEQ. ID NO. 1 has been phosphorylated;

15 (b) phosphorylated proteins having at least 95 percent homology to phosphorylated SEQ. ID NO. 2 in a form in which at least a tyrosine of SEQ. ID NO. 2 has been phosphorylated;

(c) proteins having at least 95 percent homology to SEQ. ID NO. 1; and

20 (d) proteins having at least 95 percent homology to SEQ. ID NO. 2.

25 2. The method of claim 1, wherein the animal is a primate and the disease is selected from the group consisting of transplant rejection, arteriosclerosis, asthma, pregnancy related complications involving the uterus, and cancer.

30 3. The method of claim 1, wherein the sample is a portion of a specimen selected from the group consisting of the animal's transplanted organ, the animal's transplanted tissue, the animal's kidney, the animal's uterus, the animal's breast, the animal's lung, the animal's heart and the animal's liver.

4. The method of claim 3, wherein the method further comprises examining protein fragments solubilized from a homogenate of the sample for the presence of a

fragment of the selected protein which is between 20 kDa and 80 kDa in size.

5. The method of claim 1, wherein the protein is SEQ. ID NO. 1 in a form in which at least a tyrosine of SEQ. ID NO. 1 has been phosphorylated.

6. A method of monitoring whether a transplant selected from the group consisting of transplanted organs, transplanted tissues, and transplanted cells is being rejected by an animal recipient of the transplant,
5 comprising:

analyzing a sample taken from the recipient for the degree of presence of a protein selected from the group consisting of:

(a) phosphorylated proteins having at least 95 percent homology to phosphorylated SEQ. ID NO. 1 in a form in which at least a tyrosine of SEQ. ID NO. 1 has been phosphorylated;

(b) phosphorylated proteins having at least 95 percent homology to phosphorylated SEQ. ID NO. 2 in a form in which at least a tyrosine of SEQ. ID NO. 2 has been phosphorylated;

(c) proteins having at least 95 percent homology to SEQ. ID NO. 1; and

(d) proteins having at least 95 percent homology to SEQ. ID NO. 2.

7. The method of claim 6, wherein the method comprises examining protein fragments solubilized from a homogenate of the sample for the presence of a fragment of the selected protein which is between 20 kDa and 80
25 kDa in size.

8. The method of claim 6, wherein the animal is a primate.

9. The method of claim 8, wherein the animal is a human.

30 10. The method of claim 6, wherein the transplant is a transplanted organ selected from the group consisting of transplanted hearts, transplanted livers, transplanted lungs and transplanted kidneys.

11. The method of claim 6, wherein the sample is a portion of a transplanted organ.
 12. The method of claim 6, wherein the sample is a portion of a transplanted kidney.
- 5 13. The method of claim 6, wherein the protein is SEQ. ID NO. 1 in a form in which at least a tyrosine of SEQ. ID NO. 1 has been phosphorylated.

14. A phosphorylated protein fragment in a form
isolated from other proteins having a size greater than
100 kDa, wherein the protein is between 20 and 80 kDa in
size and is selected from the group consisting of a
5 fragment of phosphorylated SEQ. ID NO. 1 in a form in
which at least a tyrosine of SEQ. ID NO. 1 has been
phosphorylated and a fragment of phosphorylated SEQ. ID
NO. 2 in a form in which at least a tyrosine of SEQ. ID
NO. 2 has been phosphorylated.

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15. An antibody capable of binding to at least two of the claim 1 proteins, at least one of which is not phosphorylated, and at least one of which is phosphorylated.

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16. A kit for monitoring whether an animal is experiencing a disease and/or adverse condition involving smooth muscle cell abnormalities, the kit comprising a claim 15 antibody.

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